

RFP DEPARTMENT OF GENERAL SERVICES - 9014
Volume I • Response to Requirements
C - Response to Statement of Work (Section VI)
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- Featured speakers
- Product displays
- Focus on solutions to meeting new Executive Order mandates
- Manufacturer and supplier expertise
- Side-by-side, hands-on demonstrations
- Meet Customer Service Center management and staff
- Focus on adding value to State Computer Store customers
- Special VIP and media hours
- An invitation to all four conference events will be included in catalog mailing
- Invitations to individual events will be mailed to geographically targeted lists

In addition to the four conferences attended, our plan for Northern California, is to hold a VIP and media-only event preferably held at the Capitol. This event will be designed to build excitement and momentum regarding the State Computer Store's lead in moving the State into the era of e-government, rather than focusing on hands-on demonstrations and manufacturer expertise. Core invitees will include Governor's office and high-level State officials, key accounts and prospects, and a variety of media. The Governor or a representative from his office will be invited to serve as a featured speaker.

The emphasized theme of these events will be a means to formally introduce the State Computer Store program to agencies and potential future customers.

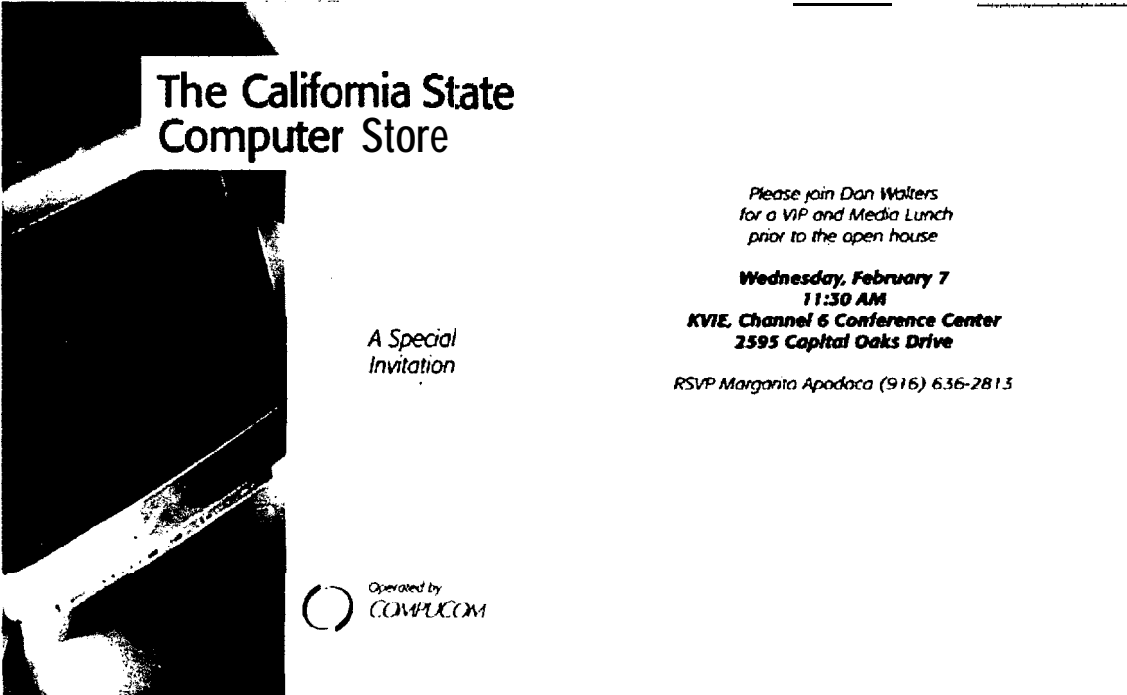
We expect this event to be a very effective marketing tool. One year after opening, CompuCom will conduct a thorough market analysis of existing and potential customers and consult with the Department of General Services Contract Administrator in order to plan the events for the following year.

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VIP AND MEDIA CONFERENCE INVITATION EXAMPLE

The following is a VIP invitation sample which would be mailed to a selective group of high level executives within the State of California. The VIP list will be an assemblage of State Chief Deputy Directors and MIS Managers, County Supervisors, Mayors, Council Members, City Managers, Deputy City Managers, Department Heads, County Administrative Officers, School District Superintendents, College Chancellors, Presidents and Vice Presidents, and Special District Managers. Various media outlets will also be included in this mailing.

This is a sample invitation for a VIP and Media Conference. It features a large, dark, abstract image on the left side. The text is arranged in a clean, professional layout. The title "The California State Computer Store" is prominently displayed. Below it, the text "A Special Invitation" is written in a smaller font. The event details, including the date, time, location, and RSVP information, are listed on the right side. The CompuCom logo is at the bottom left of the invitation.


**The California State
Computer Store**

*A Special
Invitation*

*Please join Dan Walters
for a VIP and Media Lunch
prior to the open house*

**Wednesday, February 7
11:30 AM
KVIE, Channel 6 Conference Center
2595 Capital Oaks Drive**

RSVP Margarita Apodaca (916) 636-2813

 *Operated by
COMPUCOM*

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OUTREACH - TAKING IT TO THE NEXT LEVEL

Getting the idea of e-Source across is just the beginning. Turning potential consumers into your customers is what counts. The shortest distance between two points is a straight line, and making a direct sales call is the shortest distance between turning a prospect into a customer.

A PROVEN SALES ORGANIZATION

CompuCom's professional team of Technical Consultants, will be key players in the State Computer Store marketing plan. It will be their job to personally convey the features and benefits of e-Source. They will also carry the message to customers of the many ways **e-Source** can be useful in the tasks created by the Governor's Executive Order.

CompuCom will assign its Technical Consultants to the task of marketing the State Computer Store. These professionals combine the expertise of a Systems Engineer with the skills of a sales person. They bring to the table professional, courteous, responsive sales expertise and a diverse technical knowledge of all product lines. Perhaps most important is that they are State Computer Store Technical Consultants today. They know the unique needs of government entities through experience. They each possess a keen understanding of both IT planning and government.

Our Technical Consultants will be stationed throughout California and will be assigned geographic territories. They will have consistent contact with agency decision makers; first through introductory sales calls and meetings, through follow up contact, and ultimately through ongoing relationships made while providing a myriad of post-sale services.

THE TELEMARKETING DIFFERENCE

Consumers located in large metropolitan areas certainly represent a large market segment, however, outlying counties, cities, educational institutions, and special districts collectively represent great potential. The economic realities of reaching these entities with a sales call have created a largely untapped resource for new business. CompuCom wants to change that.

The potential these outlying agencies represent will be taken seriously by CompuCom. The telemarketing campaigns we will tailor specifically to them will be the most effective means of drawing that shortest line between two points.

CompuCom will employ a team of Telemarketers who will effectively promote State Computer Store service offerings, promotions, events, etc. to our customers.

To launch the telemarketing program, CompuCom will conduct an introductory campaign that will pair telemarketing sales calls with mail delivery of the State Computer Store demonstration CD-ROM. An initial direct mail marketing piece introducing the State Computer Store and offering the demonstration CD-ROM will be sent to targeted agencies. Telemarketers will then follow up by offering to mail a copy. After the CD-ROM has been sent, they will call one more time offering to take the agency representative on

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a "virtual tour" of the State Computer Store and highlight the features and benefits of **Source** while on the telephone.

Telemarketing efforts can mirror sales activities and effectively serve your outlying market as fully as metropolitan customers. Telemarketing campaigns can be launched to make direct sales, promote special offers, and measure customer satisfaction much like traditional sales.

SOLIDIFYING ONGOING RELATIONSHIPS AND ENHANCING OUR REPUTATION

At CompuCom we understand the value of an existing customer base. Solidifying the loyalty of our State Computer Store customers is every bit as important as securing new business.

TRADE SHOWS/CONFERENCES

Establishing the State Computer Store's presence at key trade show gatherings and conferences will be an effective means of reaching customers in an open format. Exhibit booths can increase visibility, convey and reinforce an image, and offer an opportunity to disseminate information to an eager audience. CompuCom can also maximize marketing opportunities by hosting private hospitality receptions at these exhibitions. CompuCom proposes sponsoring and staffing exhibit booths and/or hosting private receptions at, at least, four major events annually; such as CASBO, CAPPO, GTC, and GTEC conferences. Solid marketing opportunities also exist with smaller association events. CompuCom also proposes exhibiting at conferences sponsored by trade organizations such as The League of Cities, The Association of California Water Agencies, and the California Association of County Treasurers and Tax Collectors.

In addition to separately sponsoring State Computer Store exhibit booths throughout the year, CompuCom can readily lend support to Department of General Services exhibiting activities by supplying State Computer Store and manufacturer promotional materials, visual and product displays, and manpower.

ON-SITE CUSTOMER SEMINARS AND EXECUTIVE BRIEFINGS

An important component of customer retention lies in the ability to add value as a vendor. One way CompuCom will accomplish this is through developing an on-site customer seminar program.

Governor Davis' Executive Order will create a spike in IT planning needs as agencies prepare to roll out e-government programs. **CompuCom's** staff and network of experts will be ready to offer on-site executive briefings and seminars to address and offer solutions to the specific issues that arise from these new programs.

As technology is delivered to the workplace, the need for customer training arises. Hardware and software manufacturers will be called upon to provide technical experts who, along with our Customer Service Center staff, can train your end-users on how to most effectively use the new equipment or software.

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In addition to training specifically to a customer's hardware and software assets, CompuCom will continually search for opportunities to offer on-site training on a variety of subjects. We will utilize our telemarketing staff to identify and categorize customers by IT needs and then offer complimentary on-site training at their convenience. The possibilities for training topics are seemingly endless, and will change as technology evolves. Sample topics that can be delivered to senior and mid-level management and staff as appropriate include asset management, network planning and technology trends.

SPEAKER'S BUREAU

There isn't anything quite like being a guest speaker or panelist at industry gatherings to boost an image of expertise. CompuCom literally has hundreds of experts to call upon to make formal presentations, and there are vast and continually changing topics to address. Potential content could include e-commerce, security, total cost of ownership, and asset management. We have a well-woven network of professional contacts, and will tap that resource to seek speaking engagement opportunities.

PUTTING THE MARKETING PLAN TO WORK

The best-laid plans go nowhere without the manpower to set things in motion. CompuCom's Contract & Marketing Manager will handle the implementation of the State Computer Store's e-Source marketing plan. This individual will have the support of CompuCom's corporate marketing department, and will work closely with the Department of General Services Contract Administrator and CompuCom's State Computer Store General Manager, along with various manufacturers to deliver timely and effective results.



A4. STANDALONE INSTALLATION/SETUP

CompuCom installation and setup is a standard process when purchasing a system from CompuCom

HARDWARE AND SOFTWARE INSTALLATION/SETUP

When an agency chooses to purchase installation and setup, as the order leaves the distribution center, CompuCom's Field Support Services is notified to schedule all of the necessary steps to prepare for the installation of the equipment. These proactive measures include scheduling the installation, informing shipping and receiving departments of incoming system orders.

As a configured system(s) is received at the agency's facility, one of our CompuCom engineers will be on-site within the time requested to install the system. The system is unboxed and assembled at the end users **deskside** and all cables are secured.

Following installation, CompuCom's **onsite** engineer will perform a series of tests, insuring that the system is functioning properly. Prior to call closure, the CompuCom engineer will orient the end user to the system(s) hardware applications and provide FAQ support for the new environment, including basic computer orientation, where to print, and who to call if supported by CompuCom.

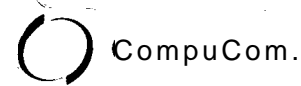
The following is a general installation checklist that can be modified to meet the agency's systems' requirements:

New User Install

- ✓ Unbox all equipment
- ✓ Assemble on user's desktop
- ✓ Connect all peripherals including keyboard, mouse, monitor, printer, and/or external modem
- Install system operating software
- ✓ Install application software ordered on same order
- Power on, verify C: prompt functionality
- ✓ Test to confirm "System Boot":
 - No error message observed during POST
 - No error message observed during driver TSR load
 - No error message observed during final start-up, including "Incorrect Windows Version" and "File Not Found" message
 - Screen behavior acceptable to client throughout entire machine start-up



- No errors observed returning to menu
- Test access to the all applications: database, spreadsheet, word processing and specialized application
- Test and confirm access to all peripheral including local printer
- As our standard practice, systems that are configured in our centralized distribution system, will be ran with a **McAfee** Virus Detection program for 100% assurance that the system is virus free
- Certify in writing to the agency that the equipment is installed and ready to be turned over to the operational control of the agency
- Record asset data such as serial number, asset tag, and installation location and user name
- Give end user copy of work ticket or a “tent card” including phone number to report installation problems
- Remove packaging materials to a central **onsite** location within the same building
- Report finished installation to a call tracking system
- Issue monthly report on installation activity



WORKSTATION INSTALLATION SERVICES

When an agency chooses to purchase installation and setup with their workstation, as the order leaves the distribution center, **CompuCom's** Field Support Services is notified to schedule all of the necessary steps to prepare for the installation of the equipment. These proactive measures include scheduling the installation, informing shipping and receiving departments of incoming system orders.

As the configured workstation(s) is received at the agency's facility, one of our CompuCom engineers will be on-site within the time requested to install the workstation. The workstation is unboxed and assembled at the end users **deskside** and all cables are secured.

Following installation, **CompuCom's onsite** engineer will perform a series of tests, insuring that the workstation is functioning properly. Prior to call closure, the CompuCom engineer will orient the end user to the workstation(s) hardware applications and provide FAQ support for the new environment, including basic workstation orientation, where to print, and who to call if supported by CompuCom.

The following is a general workstation installation checklist that can be modified to meet the agency's systems' requirements:

New **User Install**

- ✓ Unbox all equipment
- ✓ Assemble on user's desktop
- ✓ Connect all peripherals including keyboard, mouse, monitor, printer, and/or external modem
- Install system operating software
- ✓ install application software ordered on same order
- Power on, verify C: prompt functionality
- ✓ Test to confirm "System Boot":
 - No error message observed during POST
 - No error message observed during driver TSR load
 - No error message observed during final start-up, including "Incorrect Windows Version" and "File Not Found" message
 - Screen behavior acceptable to client throughout entire machine start-up
 - No errors observed returning to menu
- ✓ Test access to the all applications: database, spreadsheet, word processing and specialized application



- ⌘ Test and confirm access to all peripheral including local printer
- ⌘ As our standard practice, systems that are configured in our centralized distribution system, will be ran with a **McAfee** Virus Detection program for 100% assurance that the system is virus free
- Certify in writing to the agency that the equipment is installed and ready to be turned over to the operational control of the agency
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- Report finished installation to a call tracking system
- Issue monthly report on installation activity



C4. NETWORK DESIGN & INSTALLATION

Network availability is a critical component in a distributed IT environment. When the network is down or operating inefficiently, end user productivity can be significantly reduced. Even the introduction of a single product can significantly impact a network design, installation, management, operating budget and ultimately, end user satisfaction.

MEETING THE NETWORK CHALLENGE

CompuCom has the necessary experience and expertise to assist agencies in planning and implementing an effective network strategy and design that can support their business objectives well into the future. Customers of the California State Computer Store are afforded the most comprehensive network and system integration services available in the industry today. These services will provide agencies with customizable solutions to meet their existing, as well as, their evolving networking needs and requirements.

CompuCom's networks are designed with a single purpose: to enhance the business operations they serve. Thus, all of our planning, installation, and management services for **LANs, MANs** and **WANs** reflect our thorough understanding of complex, multi-vendor networks while our ongoing support services provide network reliability. **CompuCom's** team of network system engineers, along with an agency's internal IS team, can play an integral role in the design, implementation and support of the agency's networking projects. As more and more organizations look outside for specialists with expertise in wide area engineering and the knowledge of complex multi-vendor solutions, CompuCom is fulfilling those needs.

PREMIER NETWORK CERTIFICATIONS

IBM Tech Connect - IBM Server Specialists
IBM Network Integration Remarketer (NIR)
IBM NetTeam
Compaq Accredited Systems Engineer Program (ASE)
IBM - Lotus Notes Premier VAR
Novell Platinum Integrator and Education Center
Lotus Notes Premier VAR and Education Center
SCO UNIX Advanced Product Center
Microsoft Solution Provider (MSP)
Microsoft Certified System Engineers (MCSE)
Novell's **PartnerNet** Reseller Program (NPRP)
Novell Gold and Platinum
Novell Enterprise Consulting Partner (ECP)

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OTHER / CERTIFICATIONS

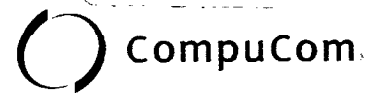
3Com	Cubix	NetFRAME	Exchange
Banyan	Cisco Systems	Novell	
Cabletron	Hewlett Packard	SCO	
cc:Mail	Intel	Sun Microsystems	
Cheyenne	Lotus	SynOptics	
Compaq	Microsoft	Tricord	
Wellfleet	IBM	Nortel Networks	

Incorporating **CompuCom's** networking expertise into an agency's internal information technology organization means their specialists can focus on core business applications and long-term issues. **CompuCom's** core networking services include:

NETWORK	SERVICES	CONNECTIVITY	SOLUTIONS
•	System design and installation	•	Micro to Mini
•	Consulting	•	LAN gateway to mini
•	Network Management	•	Remote Communications
•	Upgrades and maintenance	•	LAN gateway to mainframe
•	Diagnostics and troubleshooting	•	SNA, SDLC, TCP/IP, ASYNC
•	Integration of existing systems	•	
•	Host connectivity	•	

CompuCom has extensive experience with large complex networks in all types of environments including the factory floor, office, and technical engineering areas. We have expertise in all industry-standard topologies. A sampling of these topologies is as follows:

- **Communications Hardware** - 3Com, HP, IBM, SynOptics, CISCO, etc.
- **Cable Plant Design and Installation** - Coaxial and Fiber Optic
- **Network Operating Systems** - NT Server, Windows 2000 Server and Advanced Server, NetWare, UNIX, LAN Manager, LAN Server, Banyan, VINES
- **Workstation Operating Systems** - NT Workstation, Windows 2000 Professional, MS Windows 95 & 98, MS DOS, Macintosh, OS/2, UNIX
- **Traffic Management** - Routers, Bridges, and Gateways
- **Communications Protocols** - Ethernet, Token Ring, FDDI, x.25, T-I, Frame, Relay, ATM, TCP/IP
- **Network Management and System Administration**
- **Operations Planning** - Disaster prevention and recovery



OVERVIEW OF THE NETWORK PLANNING GUIDE/QUESTIONNAIRE

CompuCom has developed a Network Planning Guide for our California State Computer Store customers. For the convenience of our customers, and to ultimately streamline the process in delivering a user-friendly network "needs assessment" tool, our robust Network Planning Guide encompasses the Network Planning Questionnaire as required by the State. The Network Planning Guide will be offered through the State Computer Store and shall be provided upon request to our customers **"free of charge"**. A hard copy of the Network Planning Guide is provided at the end of this section

HOW THE NETWORK PLANNING GUIDE WILL BE USED

The Network Planning Guide is designed as a needs assessment and user requirements study tool. In order to achieve the goals and expectations of an agency, or group of agencies, we must first understand the user's needs. Our Network System Engineers using the Network Planning Guide will consult with agencies in determining their user requirements, user group structures, operational environment, problem areas that need resolution, and existing information flaws, to determine the specific network operational requirements and characteristics that will be of most benefit to their organization. Our Network Planning Guide encompasses the following characteristics and questions of LAN/WAN design of a well-implemented network:

- ✍ Match your organizational structure
- ✍ Encourage and provide the flow of key information
- ✍ Allow a purposeful sharing of information
- ✍ Be easy to maintain and use
- ✍ Match your specific business and operational goals
- ✍ Create an orderly structure for information processing
- ✍ Provide for security
- ✍ Make your organization more productive

NETWORK PLANNING GUIDE - CONCEPTUAL DESIGN

After evaluation of the completed Network Planning Guide, the Network System Engineer will meet with the customer to perform a needs analysis to further define their user requirements. The Network Systems Engineer's needs analysis will include the use of the Network Planning Guide to survey the current situation with respect to management and end-user needs. At that point, the Conceptual Design will begin to develop.

During the Conceptual Design, the Network Systems Engineer and the customer will join together to build the foundation and develop alternatives for the logical design of the network. This is a key decision point in the agency's network design and installation. CompuCom's Network Systems Engineer will work with the agency to analyze user

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application requirements, security issues, storage requirements, facility functions, growth potential, hardware preferences and connectivity requirements. Once complete, the Conceptual Design will include a complete schematic diagram of the proposed network, addressing operating system recommendations, application recommendations, storage requirements and hardware recommendations.

COST PROPOSAL

The Conceptual Design will include specified costs, using State Computer Store products and pricing, for the recommended hardware, software and networking services.

DETAILED NETWORK DESIGN

Our engineering team consisting of Network Systems Engineers and Consulting Specialists will be responsible for the creation of the Detailed Network Design. The Detailed Network Design will include both a logical and physical detailed design based on the information gathered in the Conceptual Design.

DETAILED LOGICAL DESIGN

The Detailed Logical Design will encompass the user's needs, user group structures, operational environment, problem areas that need resolution, and existing information flaws to determine the specific network operational requirements and characteristics that will be of most benefit to the agency. The logical design will encompass the system and application software being used. If required, addressing schemes will be formulated for the specific environment, be it TCP/IP, DEC net, Novell, LAN Manager or any other major network-operating environment. In addition, CompuCom will design user IDs, menu systems and security arrangements for accessing files and application software. The design will take into account multiple types of client workstations such as Macintosh, Windows, OS/2 or RISC-based systems running UNIX.

DETAILED PHYSICAL DESIGN

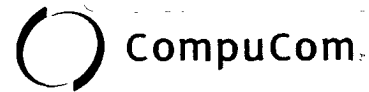
The Detailed Physical Design will include cabling recommendations for campus and/or vertical risers, wire closet design and cabling recommendations for the horizontal distribution system (between wire closet and office face plate). Drawings will be provided with marked blueprints depicting network elements such as servers, workstations, routers and main cabling runs.

The entire design will meet all specifications for the network architecture under consideration (IEEE 802.3 Ethernet, IEEE 802.5 Token-Ring, ANSI X3T9.5 FDDI). If no wire closets are available, CompuCom will work with our sub-contractor's building services department to recommend the placement and dimensions of the wiring closet in addition to any electrical requirements.

PHYSICAL REQUIREMENTS ANALYSIS/SITE PLAN

CompuCom's Network Systems Engineer, working with the agency's Project Manager, will review the facility floor plans to determine the proper location of the servers and workstations on the network. This will ensure the proper selection of network topology,

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repeaters, **inter-network** connections, bridges and routers, in the subsequent stages of planning.

SYSTEMS ARCHITECTURE

This is the key decision point in the network implementation. **CompuCom's** Network Systems Engineer along with a Consulting Engineer will work with the customer to analyze user application requirements, security issues, storage requirements, facility functions, growth potential, hardware preferences, connectivity and other key elements including:

- Network operating system selection
- Topology selection
- Applications software and electronic mail
- Utility/LAN monitoring software and hardware
- **Async** communications needs
- LAN to LAN, LAN to WAN, LAN to mini/mainframe connectivity
- Backup/recovery

HARDWARE/SOFTWARE RECOMMENDATIONS

Our Technical Consultants and Network System Engineers have in-depth experience in a variety of the major network hardware and software options. Through extensive evaluation of manufacturer specifications, bench marking and demonstrations of system components, and their past experience with specific products, they will work with the agency to determine the best cost effective configuration to meet the customer's needs.

DETAILED IMPLEMENTATION PLAN

The final output of the network planning and design activity is the Detailed Implementation Plan that will be the blue print for the installation of the proposed network. The implementation plan document will contain:

- Complete functional descriptions of the network including network segmentation illustrations and network connectivity illustration
- Schematic diagrams of the file server(s) and workstations
- Full outline of hardware, software including quantities, brands, models and product numbers
- Detailed operational support requirements
- Established costs



NETWORK DESIGN WARRANTY

As a result of the network design service, CompuCom will warrant that the hardware will connect and integrate as proposed, and the applications and integrity of the network will meet the needs of the agency as defined in the Network Planning Guide.

CompuCom will ensure that all hardware and software operate together as expected within the network environment. If required, products will be evaluated and tested in CompuCom Network Assessment Center (NAC) before a recommendation is made. Tests will analyze compatibility, performance, networkability (i.e., is product designed for network environment, or must extraordinary measures be taken for the product to properly operate on a network?), and product features. Where required, CompuCom will perform load analysis activities to ensure that the component will be able to successfully operate within our network under worst-case conditions.

SUPPORT AND MAINTENANCE PLANNING

A successful network needs to be well maintained. Our assigned Network Systems Engineer will include in the Agency' s detailed design a full outline of hardware, software and operational support requirements with established State Store pricing.

STATEMENT OF WORK

After reviewing the Detailed Network Design document and conducting additional interviews with agency personnel to **define the** network implementation schedules, a Statement of Work (SOW) will be developed. This SOW will detail the goals and deliverables for the project.

DETAILED PROJECT PLAN

Included in the Statement of Work will be a Detailed Project Plan that defines and organizes all tasks that must be completed to implement the design. The Statement of Work and Detailed Project Plan will include an implementation schedule, resource and equipment scheduling. It will also include a structured process for changing the scope of the project after commencement. It will also include an explicit statement of the "Criteria for Acceptance" of the project phases, as well as final completion. The customer will acknowledge the fulfillment of these criteria through a formal acceptance process.

This Statement of Work will be submitted to the agency' s Project Manager and to the assigned Network Systems Engineer to ensure that both parties have a common understanding of the scope, deliverables and acceptance criteria. During the implementation phases of the project, each completed phase will be presented to the customer for acceptance and formal sign off. A final acceptance document will indicate total completion as acknowledged by an authorized representative of customer.

The Network Systems Engineer assigned to create the network detail design will always be identified on each of the documents throughout the project.

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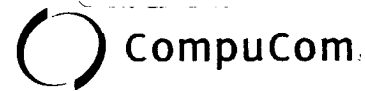
NETWORK SIZE DESCRIPTION

CompuCom has identified the ranges of complexity and the features within each level that differentiate one level from another as defined in our organization

NETWORK SIZE, DESCRIPTION & DEFINITION

Size	Description	Definition
I	Local Area Network & W	A single communication system that links together two or more workstations to form a network, usually with a wiring-base cabling scheme. LANs connect personal computers, workstations and electronic office equipment, enabling the end-user to communicate and share resources such as data storage and printers, email communication, and access remote hosts or other networks. Generally LANs are restricted to one physical location, such as a single building, office or floor.
II	Metropolitan Area Network (MAN)	A MAN (like a WAN) joins two or more separate LANs , by remote link, but is usually restricted (geographically within 50 kilometers) to a singular urban city, or campus environment. A MAN can be understood as a city-wide LAN or a combination of LANs in a similar urban location, or college campus. A MAN may involve the use of multiple servers and protocols, DSU/CSUs , bridges, routers, repeaters and fiber optic technology. Typically MAN' s do not employ a common carrier.
III	Wide Area Network (WAN)	A WAN usually refers to a combination of LANs that encompass more than one building, city, state, county or country. Usually, when a MAN grows beyond a specific rang of 50 kilometers, it is considered a Wide Area Network . WANs usually involve the use of DSU/CSUs Routers, Gateways, and leased lines, and may extend into advanced communications relays (ATM, Satellite links, etc.) MAN' s typically involve use of a common carrier.

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LAN, MAN & WAN COMPLEXITY

LOCAL AREA NETWORK		
SIMPLE	TRIVIAL	DIFFICULT
<ul style="list-style-type: none"> • A single platform • A single architecture • Any type of cabling or combination • A single protocol • A single logical topology • Any InterNetwork Connectivity Device • No WAN communication lines 	<ul style="list-style-type: none"> • A single platform • No more than two architectures • Any type of cabling or combination • Any protocol or combination • Any logical topology or combination • Any InterNetwork Connectivity Device • A DDS, T1, or fractional T1 communication line if any 	<ul style="list-style-type: none"> • Any platform or combination • Any architecture or combination • Any type cabling or combination • Any protocol or combination • Any logical topology or combination • Any InterNetwork Connectivity Device • Any WAN communication line or combination
METROPOLITAN AREA NETWORK		
SIMPLE	TRIVIAL	DIFFICULT
<ul style="list-style-type: none"> • A single platform • A single architecture • Any type of cabling or combination • A single protocol • A single logical topology • Any InterNetwork Connectivity Device • No WAN communication lines 	<ul style="list-style-type: none"> • A single platform • No more than two architectures • Any type of cabling or combination • Any protocol or combination • Any logical topology or combination • Any InterNetwork Connectivity Device • A DDS, T1, or fractional T1 communication line if any 	<ul style="list-style-type: none"> • Any platform or combination • Any architecture or combination • Any type cabling or combination • Any protocol or combination • Any logical topology or combination • Any InterNetwork Connectivity Device • Any WAN communication line or combination
WIDE AREA NETWORK		
SIMPLE	TRIVIAL	DIFFICULT
<ul style="list-style-type: none"> • Non-Applicable 	<ul style="list-style-type: none"> • A single platform • No more than two architectures • Any type of cabling or combination • Any protocol or combination • Any logical topology or combination • Any InterNetwork Connectivity Device • A DDS, T1, or fractional T1 communication line if any 	<ul style="list-style-type: none"> • Any platform or combination • Any architecture or combination • Any type cabling or combination • Any protocol or combination • Any logical topology or combination • Any InterNetwork Connectivity Device • Any WAN communication line or combination



NETWORK FILE SERVER INSTALLATION

After the network has been cabled, our team of Network Systems Engineers will arrive on-site to install and configure the network as set forth below:

- Unbox all equipment
- Clean up all boxes, and place at a facility pick-up point
- Set-up File Server Hardware (including installing and configuring, as required, internal NIC adapters, disk controllers, memory expansion boards, video boards, and SCSI adapter for tape drives)
- Attach any external disk subsystems to the server and configure
- Generate the file server with the network operating system
- Configure the network operating system (e.g., server name, internal IPX number, mirroring or duplexing options volume names, DOS partition size, number open files, etc.)
- Load application software and configure for use on the network
- Load Menu Program and configure for use on the network
- Setup and configure the backup device or station
- Attach cables to existing building wiring
- Configure all IDs, Groups with appropriate security and **login** scripts
- Test and confirm system boot
- Test and confirm network supervisor **login**

BRIDGE, ROUTER, GATEWAY INSTALLATION

CompuCom Network Systems Engineers will install bridges, routers or gateways to meet the customer's specifications. Devices to be installed include routers, power supplies and related subsystems, communication boards, processor boards and any memory modules, and required inter-connect cabling. The installation also includes review of software, including revision levels, patches compatibility, and other standardized software necessary for the operating hardware/ software platform. The following list summarizes a standard installation procedure:

- Unbox and setup all hardware
- Review the platform configuration for the latest release version(s) of OEM's standard hardware and software components, and current compatibilities



- ✍ Install adapter cards for the required topologies
- ✍ Verify power source(s) and power protection equipment
- ✍ Inspect cabling and wiring components
- ✍ Observe and inspect environmental conditions
- ✍ Attach cabling to network(s) and DSU/CSU equipment
- ✍ Configure, test and verify configuration confirming all components work individually and as part of the network
- ✍ Monitor statistics
- ✍ Document Installation

INPUT/OUTPUT DEVICE INSTALLATION

The term Input/Output Device is common nomenclature within several aspects of a networked computer environment. **For the** purpose of this response, CompuCom will respond to this request from a perspective of devices attached to an end-point or network node.

Working closely with the requesting department and end user, the specific requirements for I/O devices will be assessed by a qualified Network Systems Engineer. Once functional requirements have been determined, an appropriate list of devices will be presented to the user for final selection. Once the user has assessed their options and selected a component, a systems engineer will be tasked with the device installation. Included in this fee-based service is site placement of the device at its end location, optional asset tagging, and connection to the workstation. Once physical connection is made to the workstation, the device will have full diagnostics performed as provided by the manufacturer to ensure functionality. Upon completion, the device will be integrated into the operating environment. Integration includes necessary device drivers, Windows **INI** modifications, and other software configuration necessary for device functionality. Final acceptance testing will include I/O interaction with the intended application allowing the end user to obtain peripheral components without regard for technical complexity.

NETWORK USER INSTALLATION

While the individual PC is often considered a trivial component of an overall network architecture, its successful performance is crucial to the end user's perspective of the overall network system. Improper installation will often create minor user problems, which disrupt end-user production and increase help desk and dispatch loads while decreasing overall user satisfaction.

To offset these issues, CompuCom offers a comprehensive installation service for new systems. Included in this is the dispatch of a Network Systems Engineer certified on the operating environment being installed. Starting with unpacking the equipment, all items are accounted for through visual inspection. Once all items are indexed, the product will



be nested into the workplace under the direction of the end user. Once physically located, the Network Systems Engineer will then integrate the workstation into the overall network in conjunction with the systems administrator.

This work includes the loading of workstation device drivers, optimization of the Windows and/or Macintosh configuration, and initial **login** scripts for network access as defined by the system administrator. If standards for such parameters have been established and provided, they will be executed as defined. Once completed, the Network Systems Engineer will validate the **login** of the node and validate the user ID. At this time, the user will be requested to choose unique password ensuring system integrity. Upon completion, a cursory review of system documentation will be provided. This short overview specifically excludes any specialized application or network tutorials.

NETWORK APPLICATION SOFTWARE INSTALLATION

Once the system has been fully tested, the Network Systems Engineer will load and configure the network application software as specified by the agency. The network application software' installation shall include:

- ✍ Installation of file server network application software
- ✍ Installation of any and all node software
- ✍ Creation of customized menus, security files, directories, and user access
- ✍ A full evaluation and system test will then be performed to confirm that all applications are fully functional and properly integrated, and the entire system meets established specifications.

WORKSTATION INSTALLATION

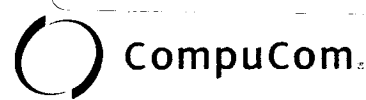
When all cabling runs have been completed, the Network Systems Engineer will install and connect the selected workstation to the network. Once the configuration is fully tested, the Network System engineer will set up the menu network files, batch files, and configuration files. The Network Systems Engineer will then test access to all applications and the user' s local and or shared system printer.

NETWORK CERTIFICATION

The certification of either the entire network system or of the physical media can be performed outside of the scope of a cable installation or site survey. It is advantageous for customers that use a **cabler** other than CompuCom to have the work checked by a third party to ensure a successful implementation. This activity is offered for newly installed network systems or existing systems. For newly installed network systems our Network Systems Engineers will:

- ✍ Visually inspect wire centers
- ✍ Ensure cabling is secure

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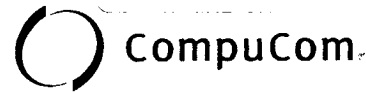
- Ensure that all cabling is neatly tie-wrapped and easy to maintain (e.g., re-patch)
- Determine whether power protection is employed for cable termination equipment such as wire concentrators
- Verify that wire center has adequate space and proper cooling
- Test each drop with cable scanner (utilize 100 Base-T injector for standard compliance testing)
- Notify customer of any defective cabling runs

FOR EXISTING NETWORKS (NOT INSTALLED BY **COMPUCOM**) **COMPUCOM** WILL:

- Visually inspect wire centers
- Ensure cabling is secure
- Ensure that all cabling is neatly tie-wrapped and easy to maintain (e.g., re-patch)
- Determine whether power protection is employed for cable termination equipment such as wire concentrators
- Verify that wire center has adequate space and proper cooling
- Test each drop with cable scanner (ensure drop complies with IEEE specs with proper levels of attenuation, near-end crosstalk, resistance, propagation velocity, etc.)
- Notify our sub-contractors of any defective cabling runs
- Repair any defective cable drops (upon receiving necessary customer approval)
- Utilize an approved network monitor (i.e. Sniffer) to perform a brief pre-expansion test of the existing network This test will last approximately 15 minutes and be conducted during the busiest time period for the network. CompuCom will devise the proper measurement needed to create a baseline for future analysis. Baseline measurements need only be taken periodically, or, as is typically done, after major network changes.

PROJECT FEASIBILITY STUDIES

This service is designed to review a proposed project from a technical or implementation plan perspective. A Consulting Engineer will look at the network design in light of the design goals to determine if the network will perform as expected. Project Feasibility Studies provide an independent, professional review of the soundness of the project plan design or the technical design of the network. CompuCom Network System Engineers and Consulting Specialists assigned to the State Computer Store have a broad range of experience in designing and implementing networks. An agency can take



advantage of their expertise and experience by asking them to review their plans prior to implementation. An engineer can offer suggestions that will enhance the performance of the network or the efficiency of the implementation process. *Second opinions always increase probability of success!*

PROJECT MANAGEMENT

The fundamental challenge for Network Installation and System Integration is to deliver the promised results on time and within a defined budget. CompuCom understands and accepts this challenge, which is why we provide a dedicated Project Manager as an integral part of our services. The Project Manager heading the Project Implementation Team has the proper expertise to anticipate and plan for critical matters such as delivering to users the features and functions they require, supplying adequate documentation, and ensuring future network salability. **CompuCom's** Project Management strategy includes:

- ✍ A detailed Project Plan which includes milestones, scheduling, resources, and budget assessment
- ✍ Documenting the task list and schedule for the project in consultation with the client prior to commencement, including establishing specific objectives and criteria for its completion.
- ✍ Developing a milestone schedule, including charting activity level, costs and providing reports triggered by the schedule.
- ✍ Assigning detailed tasking of the Project Implementation Team members to maximize their productivity independently.
- ✍ Ensuring successful completion of the project through timely follow-up services.

PROJECT MANAGEMENT SYSTEM

For large-scale projects, CompuCom has developed a system to design and monitor all network implementation projects using a computerized Project Management System. The Project Management System provides a full set of planning documentation, which includes a chronological tracking list, PERT diagram, and **GANTT** charts. The plan is updated and reviewed on a weekly basis. This ensures that both the user organization and the CompuCom team are aware of the project status and that all members of the team are in full agreement with regard to completion goals and expectations.

PRODUCT CONSULTING/RESEARCH

CompuCom will evaluate pre-released or regular software or hardware products in meeting developing business needs or to help prepare for any network upgrade activities.

Concise reports will be written for each evaluation noting any quantitative observations and measurements. Qualitative objective recommendations will be provided as needed.

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Many types of network environments can be simulated, with test densities ranging from two workstations up to the networks limitation.

This activity also includes piloting the new product on a test network. On-site testing will be required to precisely duplicate any problems that may be encountered in a large network production environment, with multiple segments, perhaps spanning nationwide or globally.

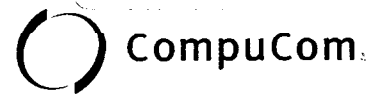
LANHARDWAREMAINTENANCECONTRACT

CompuCom strongly recommends on-site service contracts on key network hardware components. CompuCom is offering the State and its customers numerous hardware maintenance options on equipment out of warranty, including time and materials, and many other contractual options. The maintenance service options are expanded upon in **L4. Additional Commitments/Services.**

CONNECTIVITY PLANNER-COMPUCOM' SINTERNAL TOOL

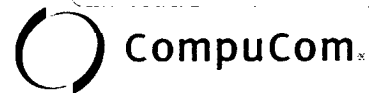
A large LAN/WAN design and implementation can be complex. Poor planning can result in extensive delays, improper expectations, unhappy users, and in the worst scenario, a network that never becomes fully operational. CompuCom' s Connectivity Planner is an internal system designed to plan and monitor network implementation projects. CompuCom offers a structured, documented data gathering and review process using a consistent 10-step process. The following is an overview of CompuCom' s Connectivity Planner 10 Step Process:

1. **Preliminary** Feasibility-Interview the prospect, collect data required and schedule concept briefing.
2. **Concept** Briefing-Conduct an open discussion to obtain pertinent information that will further define the scope of the project, Obtain total time involvement for all personnel and obtain a commitment to the process and a fee for design services.
3. **Project** Meeting-Identify responsible customer personnel for every department involved and assignment of data collection worksheets in order to manage their return for the Data Review meeting.
4. **Data** Collection-Operational & administrative analysis through the completion of the following worksheets: Workgroup administrators listing, Current information flow, proposed information flow, End user profiles, PC / MAC Workstation Profiles, Financial Issues, Risk Analysis, Support & training requirements Hardware/Software Standards, Site / Cable Plant / Wiring Closet Survey, Informational gathering worksheets for: Workgroup Administrators, Department Manager, Technical Advisor, CEO. Existing **LANs**: Application & Network Server Profile, Data Security and Audit Procedures. WAN Environment: Remote Communications, WAN Interconnect Issues Summary.
5. **Data** Review-Project Manager reviews each worksheet to determine if accurate network design is possible using collected information. Completed worksheets are



checked off as gathered. If additional information is required, schedule date for completion.

6. **Analysis and Design-To** ensure components of analysis, design and recommendation are complete.
7. **Recommendations** Meeting-Schedule meeting and make copies for all attendees to present the findings of the project team and gain agreement to proceed with **installation**.
8. **Installation & Implementation-Install** network. Formally document any changes requested by client at installation, Formally document post-installation support & service plans, Identify tasks and accountabilities in the implementation phase of the network, and identify tasks and accountabilities in the operation phase of the network.
9. **Completion-The** following tasks are performed & reviewed: System Completion Check list, PC / MAC system testing, Single and Multi-Station Station Word Processing / Spreadsheet / Database / Specialized Application testing, Electronic Mail System, Data Backup/Restore System Test and Operational Log.
10. 30 - 90 **Day** Review-Assure client satisfaction and address outstanding issues.



D4. NETWORK UPGRADES

CompuCom's Network Assessment and Planning services team will assist our State Computer Store customers on network consolidation, upgrades, performance, support, ongoing system operation and implementation planning.

CompuCom's Network Systems Engineers, certified in supporting the server product lines of all major manufacturers, will upgrade server hardware including memory, processors, CD-ROM drives, and data redundancy devices such as RAID configurations, and backup systems.

CompuCom's Network Systems Engineers are certified and experienced on all major PC network operating systems including Windows NT Server and Workstation, and Windows 2000 Professional, Server and Advance Server. This experience includes upgrades of existing network operating systems as well as migration services from one O/S to another. CompuCom routinely participates in beta testing of new software releases, allowing its engineers to gain proficiency in new versions prior to release.

CompuCom's Network Systems Engineers are trained and experienced to perform many networked application upgrades. Upgrades are performed using software distribution utilities such as CompuCom-developed Ready! and Microsoft SMS. CompuCom engineers are also adept at designing batch programs that execute at login and perform software upgrades for applications on the workstation local drives.

SERVER UPGRADE

Server performance will vary greatly based on the individual user's count and application needs. Platforms that performed well in yesterday's environment are often inefficient by today's standards and taxed as utility increases. Our Network Systems Engineers will assist the agency in defining the server performance parameters, along with component and capacity planning to meet the performance parameters. Once defined, the Network Systems Engineer will work with the site manager to determine the most appropriate time to launch the upgrades.

Most server upgrades are fairly simple: adding disk space, memory, or network interface cards. However, migration to a new hardware platform, such as moving from a Pentium-based system to a RISC processor-based system is considered a complex upgrade. In these cases data integrity and migration are critical planning factors with our project management teams. By working closely with the site management staff, this type of work can be successfully completed with the least amount of intrusion to the end user.

INPUT/OUTPUT DEVICE UPGRADES

The process for upgrading server-oriented components increases in complexity because their availability affects many other systems. Our technical staff will work with the agency's site manager to specify I/O components that will meet upgrade requirements while minimizing server downtime.